

PALM PORTRAIT

The "Fish-Tail" Palms*

The increasing interest in the exotic in plants is causing palms to be more used in gardens and in homes, for few plants invoke the atmosphere of the tropics as do palms. The Huntington gardens have an outstanding collection which is unsurpassed in the United States west of Florida. Some hundred kinds from subtropical regions survive, and usually thrive, in our ordinarily benign climate.

To the uninitiated, the three thousand or so kinds of palms seem very much alike, and many people probably think there are only two species, one with feather-shaped leaves and one with fan- or hand-shaped leaves. Notable exceptions are the "fish-tail" palms, so-called because the leaf segments resemble the triangular caudal fin of a fish. Small forest palms called chamaedoreas have such leaves but the name is more commonly applied to *Caryota*, a genus from southeast Asia of some thirteen species. These imposing trees cannot be confused with other palms because of their finely dissected fronds (a term popularly applied to the leaves of both ferns and palms) with their fin-like divisions.

In southern California, two species of *Caryota* have recently become popular and are well represented at the Huntington. *C. ochlandra*, from southern China, was introduced by the late David Barry, Jr., at his California Jungle Gardens in the 1940s after he obtained seeds from Hong Kong and Canton. Our several specimens are located near the east end of the sidewalk that runs through our Jungle Garden; just uphill, under an old oak, is our oldest, some twenty feet high. Despite

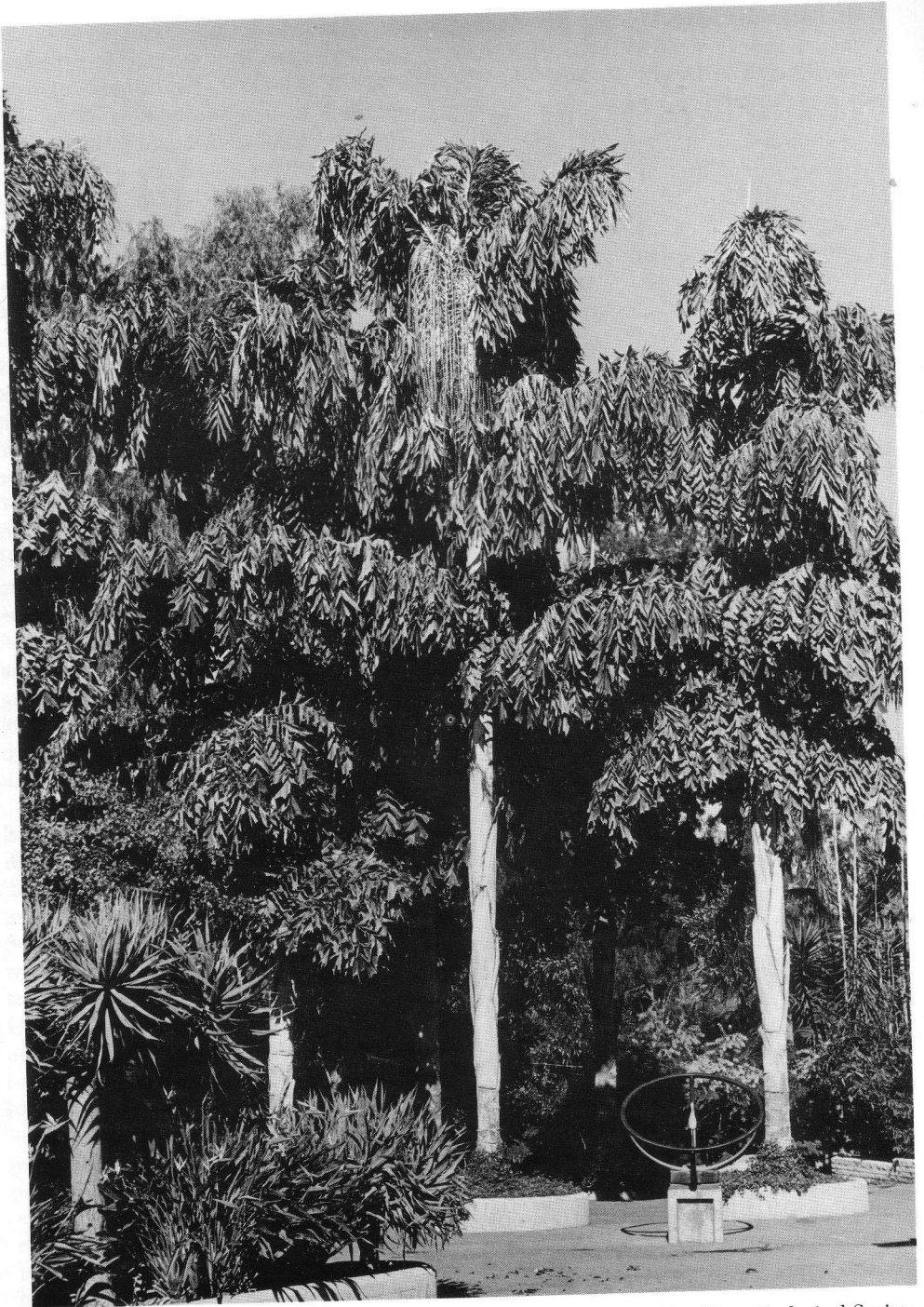
its height, it is only sixteen years old, for caryotas are among the fastest growing of palms. Each node, or ring, on their trunks marks the former location of a single leaf, and these rings are over a foot apart.

As if to compensate for such a growth rate, Nature imposes a severe penalty on *Caryota*: the fastest-growing palms they may be, but they are also the shortest-lived. The average life span of a single-trunked "fish-tail" is only some twenty years. During this time, the plants do not flower, unlike other palms, which flower yearly once they are old enough to do so. After growing for ten to fifteen years, *C. ochlandra* produces its first flower stalks near the tip of the trunk; these hang downward, with strange, beetle-shaped flowers in clusters. Each year, for four or five years, another inflorescence is produced farther down the trunk. Soon after the last flower stalk appears the palm dies. Like the agave, or "century plant," which also has an amazingly fast-growing flower stalk, the plant, in a final and mighty effort, reproduces itself and then perishes.

Unfortunately, in *Caryota* the male and female flowers mature at different times on the same plant so that seed rarely forms on California plants. The original sources of seeds in China have vanished and only one of the many plants in the United States that has flowered has actually set seed. *C. ochlandra* therefore is becoming increasingly rare as the remaining plants flower without young ones to replace them.

Plants of this species have been known to survive 24° F. without damage so that, once a seed source is established, this handsome species should become common. One of its distinctive features is the clustering of the small leaf segments at the base of each frond. This makes a perfect platform for a bird nest, a fact that has not

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1. *Caryota urens* flowering at San Diego Zoological Gardens, courtesy San Diego Zoological Society.

gone unnoticed by local birds, so one can find a nest on nearly every leaf base. The leaves, with their fine divisions, somewhat resemble those of bamboo and, in fact, this species is named after *Ochlandra*, a bamboo genus.

An even handsomer species in our collection is *Caryota urens*, from India, Burma, and Sri Lanka. It is by far the most common species in tropical lands. It had never been cultivated to any extent in California until 1962, when David Barry, Jr., who had introduced *C. ochlandra*, collected seeds from plants at the relatively high altitude of 4800 feet in Sikkim. Coming from a high altitude, these plants presumably are more frost hardy than lowland forms. It is even faster growing than *C. ochlandra* and the first plants, some forty feet high, are now flowering in southern California. We hope seed will be regularly available from California plants. Flowering in this species is spread over some seven years but is just as fatal to the plant. *C. urens* is a much-utilized plant in its native countries. The leaf-base fiber is used for rope, which is so strong that it was used to tie wild elephants. Toddy, a palm wine, is fermented from the sap and the toddy can be further distilled into the stronger *arraek* or boiled down into sugar.

The name "urens" means "burning" and refers to a notorious character of the caryotas. The fruits are red and conspicuous and they are impregnated with crystals of calcium oxalate which is very irritating to the tongue and skin; it is said that even the bark of the trunk, if wetted, will irritate the skin. Deaths have even occurred from the effects of the juice.

Caryota urens is a magnificent plant, with broad segments that form a large arching frond. Our largest specimen, some fifteen years old, can be found facing the North Vista by the

north door of the Art Gallery, where it has nearly exceeded the height of the roof. It dominates the landscape and attracts much attention from visitors. Unfortunately, it will probably soon flower—let us appreciate it while we may.

MYRON KIMNACH

PALM BRIEFS

Coconuts in the Celebes

Dr. Antony Davis is the coconut expert at the Indonesian Government Institute of Industrial Crop Research in North Sulawesi. He was a younger colleague of my brother, Professor J. B. S. Haldane, one of the bright young Indians enmeshed in the scientific seniority system which so often hampers Indian research. By now he is an old friend and has started a Haldane Research Institute in his own state, Kerala, where he started working on coconuts more than twenty years ago. He was sent out to Indonesia by FAO to help them with their problems. When I was there in 1977 he was in his second year and deeply involved in the reorganization of one of the most important crops of Indonesia. This Institute also deals with cloves, nutmegs, and other spices and indeed there are fellow institutes in other parts of Indonesia dealing with other important crops.

North Sulawesi is beautiful country; there is still a vast amount of deep forest but pressure of population has put a great deal of it under cultivation, mostly with coconut palms, dwarfing the wooden houses of the cultivators. The main buildings of the Institute where Mr. Sudasrip, the Director, and his staff live are on the outskirts of Manado. But the main plantations are only a short drive away and growing. It seems likely that in the future this